

REPORTING ON THE ECOLOGICAL CONDITION OF THE NATION'S WETLAND RESOURCE: RESULTS FROM THE FIRST NATIONAL WETLAND CONDITION ASSESSMENT

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Background/Question/Methods

The first-ever National Wetland Condition Assessment (NWCA) was conducted by the U.S. Environmental Protection Agency (USEPA) in 2011. The NWCA is one of four National Aquatic Resource Surveys (NARS) completed every five years by USEPA in collaboration with other federal and state partners to assess the quality of the Nation's aquatic systems. NARS employs a probability site selection that enables statistical inference to national populations of the resource being sampled. A report on the 2011 NWCA is scheduled for completion in 2015. At each of 1138 locations across the contiguous U.S., vegetation, algae, soil, water chemistry, and hydrologic data were collected in a 0.1-0.5-ha area, depending on the size of the wetland being assessed. Data preparation involved a variety of quality assurance checks. State and regional vegetation nomenclature used by field crews were standardized to the USDA PLANTS national database. Vegetation data were used to develop an index of ecological condition. Chemical, physical, and biological data were used to define reference condition and a disturbance gradient and to quantify the national and regional extent of disturbances likely to affect condition and their associated relative and attributable risk. (187 words)

Results/Conclusions

Wetland condition was evaluated using a vegetation index composed of four metrics: floristic quality assessment index, relative importance of native plants, number of plant species tolerant of disturbance, and relative cover of native monocots. The index was calculated consistently across the Nation, though expected values differed by wetland type and ecoregion. Evaluation of disturbance data resulted in six indices of stressors found in the buffer surrounding the area sampled, two indices of hydrologic alteration, and a soil heavy metal index. Nationally, 3640 plant species were identified of which 85% were native to the site sampled. Approximately 48±6% of the national wetland area was in good condition and 32±6% was in poor condition. The three most widespread stressors were vegetation removal, hardening, and ditching; all affecting approximately a quarter of the Nation's wetland area. These results varied by region, with the Coastal Plains region and Eastern Mountain and Upper Midwest region having the most area in good condition, about 50%. The next assessment in 2016 will build on these results and initiate our ability to report on trends in addition to status. This is an abstract and does not necessarily reflect USEPA policy.